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The Substitution of Governance Mechanisms in the Evolution of Family Firms

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Abstract

This paper examines how family firms substitute corporate governance with family governance and self-governance at different stages of their development. We argue that the types of agency problems that family firms face as they pass from one generation to the next determine the extent to which these mechanisms can substitute for one another. Our empirical investigation provides evidence that in the early stages of a family firm's life cycle, instruments of self-governance lessen the need for mechanisms of corporate governance, whereas in the later stages, instruments of family governance can substitute for mechanisms of corporate governance.

Keywords: agency problems, altruism, corporate governance, family business, family governance, parental altruism, self-governance, substitution

Introduction

At the heart of research on corporate governance lies the agency conflict that arises when ownership and management are separated (Eisenhardt, 1989). Because this separation does not occur in family firms, particularly in their early stages, most classical works on governance assume that family firms do not need corporate governance at the outset (Fama and Jensen, 1983). More recent research based on behavioural economics notes that family firms indeed face agency problems, but they are very different from those encountered by non-family firms (Lubatkin et al., 2005; Schulze et al., 2003). More specifically, these works report that in the early stages of family firms, owner-managers typically face intra-individual agency conflicts that spring from parental altruism; in other words, owner-managers may make decisions that are in the interests of their families but not in the long-term interests of their firm. The problems that family firms face in their later phases concern family opportunism, which arises when family members "place their own nuclear household's welfare ahead of the welfare of their extended family members" (Lubatkin et al., 2005, p. 324). Scholars have argued that family firms seeking to solve these problems must have governance mechanisms in all phases of their development (Bammens et al., 2008).

Several studies have shown that, apart from mechanisms of corporate governance—in particular, having a board of directors—family firms often also use self-governance or family governance mechanisms to address such problems (Gallo and Kenyon-Rouvinez, 2005; Gersick and Feliu, 2014; Lubatkin et al., 2005; Siebels and zu Knyphausen-Aufseß, 2012). Mechanisms of self-governance and family governance do not have a corporate origin or specifically target firm governance. Self-governance, also referred to as "self-control" (Thaler and Shefrin, 1981), is defined as a set of "[self-imposed] rules that restrict the doer's opportunities" (p. 397). Family governance is defined as a set of mechanisms targeted at conflicts between family members. The classical mechanisms of family governance are the family assembly, defined as a periodic (typically annual) gathering of the extended family (Gersick and Feliu, 2014), and the family council, defined as a group of representatives of different parts of the wider owner-family who periodically assemble to deliberate issues related to the family's involvement in the firm (Gersick et al., 1997; Melin and Nordquist, 2007). Although this research has illuminated the different types of governance mechanisms in family firms, we lack a systematic understanding of the extent to which self-governance, family governance and corporate governance can substitute for each other. This is an important gap in the literature as governance researchers (Rediker and Seth, 1995; Aguilera et al., 2008) have emphasized the need to understand whether and under what conditions corporations can chose between different mechanisms to solve their governance problems. There is already a considerable body of research that has discussed the extent to which different mechanisms of *corporate* governance, such as incentive payments or boards of directors, might serve as substitutes for one another (Rediker and Seth, 1995; Agrawal and Knoeber, 1996; Dalton et al., 2003; Desender et al., 2016; Moyer et al., 1992; Misangyi and Acharya, 2014), but we do not have any studies on the extent to which different *types* of governance mechanisms can stand in for each other.

Against this background, this study is concerned with the question to what extent self-governance and family governance can substitute for corporate governance in family firms. Taking the mentioned temporal shifts of agency problems into account, we examine the potential substitution effects in relation to the different phases in the family firm's evolution. Building on insights from behavioural economics, we hypothesize that in the earlier stages of a family firm's development, self-governance tends to substitute for corporate governance, whereas in the later stages of a family firm's development, family governance tends to substitute for corporate governance. We test these two hypotheses using proprietary data from surveys conducted in 2003 and 2013 in private family firms based in Germany. Our results largely confirm our hypotheses. With these findings, we contribute to the literature on governance by illuminating how self-governance, family governance and corporate governance interrelate both in general and in the different stages of a firm's development.

The remainder of the paper is structured in five sections. In the first section, we adopt a generational perspective to explain the different stages of a family firm's life cycle and the agency conflicts that accompany each stage. In the second section, we elaborate on the mechanisms of governance that family firms can employ to address the various types of agency conflicts encountered as they evolve. Using this foundation, we build our hypotheses on the possible ways in which family firms can replace corporate governance with self-governance and family governance. In the third section, we describe our sample and method. After presenting our results in the fourth section, we discuss and conclude our paper in the fifth and final section.

The evolution of agency conflicts in family firms: parental altruism, family opportunism and manager opportunisms

The development of family firms is typically described in the literature in terms of the generations that own and manage these firms. Most authors distinguish the three ideal-typical stages of controlling ownerships, sibling partnerships, and cousin consortiums, which correspond to the first, second and third (or later) generations of ownership (Gersick et al., 1997; Ward and Dolon, 1998). Some scholars have refined this three-stage model further by also accounting for transitions between generations and the extent to which different generations are actively involved in firm operations (e.g., le Breton-Miller et al., 2011). As additional generations become involved and ownership becomes increasingly dispersed, different agency problems emerge, and some of the earlier agency problems become less salient, as we discuss in the following.

In their early stages, family firms typically face self-control problems. This phenomenon begins with the private owner-controlled firm. At this stage, ownership is typically concentrated in the hands of a single individual—the founder—who also serves as the CEO of the firm. Traditionally, this stage is considered to be agency cost free because of the lack of separation between ownership and management, whose relationship is the main source of such conflicts (Fama and Jensen, 1983). In contrast to this assumption, more recent studies suggest that founders indeed face agency conflicts (Lubatkin et al., 2005; Schulze et al., 2003). These conflicts of "self-control" do not arise between different persons but instead concern different self-models of a single founder-CEO. As Thaler and Shefrin (1981, p. 392) describe it, a founder (as with any individual) at that stage is "assumed to be both a farsighted planner and a myopic doer." Such conflicts representing two different logics can lead to incoherent actions.

In the specific context of family firms, self-control problems relate to intra-personal conflicts between concerns for the immediate family and concerns for the business: founders wish to promote the welfare of the family, but they also wish to ensure the success of their business. These two wishes often prove incompatible. For example, family members may be hired at a higher cost than necessary, the firm's money may be used to finance luxury lifestyles for family members, children or spouses may be offered jobs that do not reflect their management skills, and departments that are not actually needed may be established merely to satisfy family members and family stakeholders (Bennett et al., 2005; Chrisman et al., 2007; Schulze et al., 2001). A well-known example is the Steinberg company, whose founder lavished cars, clothes, and condos on his children. According to Gibbon and Hadekel (1990: 95), authors of the Steinberg company's history, "When it came to his daughters, [the founder's] pockets were deep; there was nothing they couldn't have."

The reason for this behaviour of many company founders is what psychologists and behavioural economists call "altruism." The *International Encyclopedia of the Social Sciences*

(2008, p. 87-88) defines altruism as “a motivational state with the goal of increasing another’s welfare” (see also Darity, 2008). The motive that prompts company founders to generously finance their children’s lifestyle is *parental altruism*, i.e., the desire to increase their family’s welfare. The same motive may lead founders to inadequately monitor the job performance of family members and to protect misbehaving family members from disciplinary action. Although the lack of monitoring and penalization fosters shirking and free-riding (Karra et al., 2006; van den Berghe and Carchon, 2003), which ultimately harm the founders’ long-term interests in maintaining a healthy family firm, this approach benefits the founders’ short-term interests by ensuring their family’s welfare. Consequently, company founders struggle to choose between two conflicting interests: the long-term interest in maintaining a prosperous firm that generates sustainable rents for future generations and the short-term interest in offering family members an affluent lifestyle.

As family firms age and more generations become involved, another agency problem known as *family opportunism* begins to emerge. This problem, in contrast to the self-control problem, is not an intrapersonal but an interpersonal agency conflict between members of different nuclear families. Family members make decisions in view of their own nuclear household’s welfare rather than the welfare of their extended family (Lubatkin et al., 2005). In particular, this problem starts in the stage of sibling partnerships. Lubatkin et al. (2005) illustrate these family dynamics with a story from the Old Testament (Genesis 37): Joseph, son of Jacob and Rachel, lived with ten half-brothers, one full brother, and one half-sister. Jacob treated Joseph as his favourite son. When Joseph was sent to his brothers, who tended their father’s flock, they initially plotted to kill him and ultimately sold him into slavery. The moral of this story is that the transfer of ownership to the next generation of family members and the diversity of roles that new owners may perform in the firm cause conflicts of interest between them (Eddleston and Kellermanns, 2007; McKee et al., 2013; Sund and Melin, 2013; Zellweger and Kammerlander, 2015). As the branches of the family span more widely, emotional bonds within the family weaken. The altruism of each shareholder centres on his or her own household, and this view may lead to rivalry among different branches of the family. Each sibling gives greater priority to profiting as much as possible from current rents, which his or her own nuclear family can enjoy, rather than to longer-term rents, which benefit the broader family as a whole.

In later stages, as the third generation starts to become involved and ownership becomes more dispersed, family firms also begin to face the classical governance problems of *manager opportunism*. Having survived at least two generations, family firms are typically large and formalized at this stage. Shareholders grow in terms of numbers, with many cousins from different sibling branches coming to exercise ownership control. The dynamics of family politics are magnified between cousins who work in the firm and those who do not. These groups benefit from their firm affiliation differently. Non-managing shareholders often feel "paper rich but cash poor" (Gersick et al., 1997, p. 51) and want to either sell their stakes or control family management to ensure that generous dividends are paid. In such situations, an increasing number of non-family investors step in and influence the firm's business practices (Fiegener et al., 2000).

As family firms move from the first to the second, third and later generations, they encounter new agency problems, and the initial agency problem of parental altruism starts to recede. The more generations are involved in the family firm, the more the interests of different family members tend to diverge and emotional family bonds tend to weaken (Serrasqueiro et al., 2016). As a result, altruism becomes atomized (le Breton-Miller and Miller, 2013). Although a "family ownership logic" (Brundin et al., 2014) may prevail, concerns for the family as a whole decrease. Hence, family firms at later stages of development are less likely to face problems of parental altruism.

Mechanisms for managing agency problems in family firms

As we have seen, agency conflicts change in the evolution of the family firm. While in early stages family firms face particularly problems of parental altruism, later generations must deal with problems of family and manager opportunism. To counter these different agency problems, family firms are likely to seek appropriate governance mechanisms. The classical corporate governance mechanism is the board of directors, consisting of a group of internal and external directors who are formally appointed by shareholders to represent the wider interests of the corporation in important business decisions (Shleifer and Vishny, 1997). Jensen (1993, p. 862) describes the board as being "at the apex of the internal control system [with the] final responsibility for the functioning of the firm." Boards are generally considered to be capable of monitoring the ability and motivation of managers to promote business performance (Bammens et al., 2010). Moreover, boards may also fulfil other key functions, such as mediating disputes among shareholders or providing advice (Hillman and Dalziel, 2003). Given that these boards can serve a wide range of different functions, they are also frequently characterized as a "silver bullet" (Misangyi and Acharya, 2014) as a means of resolving all types of agency conflicts that a family business might experience, ranging from managerial opportunism to family opportunism and parental altruism (Bammens et al., 2008). For this reason, even a founder of a family firm in its first stage can choose to install a board of directors to restrict his or her altruistic actions towards the family. In such cases, the board most likely has the power to veto decisions that harm the business—for instance, the founder's attempt to hire an unskilled family member or to cash out too much equity to fund his or her family members' lifestyle.

Apart from boards of directors, family firms can also adopt mechanisms of self-governance to manage agency problems. Self-governance involves sets of self-imposed rules that restrict the manager's possibilities for action (Thaler and Shefrin, 1981). By constraining personal future actions that may harm the family business to benefit the family welfare in the short term, self-governance is particularly suited for handling self-control problems. Typical examples of self-governance in family firms are partnership agreements and family mission statements that settle, for example, questions of succession and inheritance in family firms (Gersick et al., 1997; Harris et al., 1994). These mechanisms typically determine the use and allocation of profits and firm property, establishing clear boundaries for the founder's altruistic tendencies. The literature on behavioural economics contains many examples of individuals applying various self-governance mechanisms to pre-empt self-control problems (Burger et al., 2011; Fishbach and Shah, 2006; Gathergood and Weber, 2014). Outside of this literature, the most prominent example is probably the Greek legend of Ulysses and the Sirens (Elster, 2000): on his way back home, Ulysses skirted the land of the Sirens—beautiful but dangerous creatures—who ambushed any sailors straying too close and wooed them with their enchanting voices to ultimately imprison them on their island. Curious to hear the voices of the Sirens, Ulysses ordered all of his sailors to plug their ears and to tie him to the mast. Anticipating that he would not have the strength to resist temptation, he instructed his crew to leave him tied to the mast, regardless of how much he cursed and begged them to release him. When he heard the Sirens' song, he ordered the sailors to untie him, but they bound him even tighter and released him only once they were past the Sirens' island. The solution that Ulysses adopted to address the anticipated problem of self-control is, in fact, a mechanism of self-governance: because he knew that the Sirens would entrance him, he committed himself to restricting his future actions (Thaler and Shefrin, 1981). Many people use similar approaches—for example, they pledge to follow a diet or exercise every day or to apply self-imposed rules that concern the consumption of drinks, cigarettes, and other harmful habits. The crucial point is that in all of these cases, the rules are self-imposed.

As noted above, self-governance is particularly suited for addressing self-control problems. Abstract and fixed guidelines such as partnership agreements and family mission statements are less powerful in solving interpersonal agency problems resulting from family opportunism and managerial opportunism, which require more procedural governance mechanisms. Self-control problems are typical in the first stages of family firms, in which managers struggle to restrain their parental altruism tendencies; however, as observed above, altruism decreases in later stages. Against this backdrop, we expect that self-governance may be able to substitute for boards of directors as the classical corporate governance mechanism in the early stages but not to the same extent in the later stages of a family firm's evolution. Considering that drafting self-binding rules is less costly, both in financial terms and in terms of the potential loss of control, than establishing a board of directors (Blanco-Mazagatos et al., 2007; Jonovic, 1989), we would expect family firms to choose self-governance rather than corporate governance when the former can substitute for the latter. This expectation is in line with Misangyi and Acharya (2014), who show that the relative costs of governance instruments and their relative effectiveness in addressing agency conflicts are key determinants in the substitution process. Against this backdrop, we formulate the following hypothesis:

Hypothesis 1. The earlier the development stage a family firm is in, the more self-governance tends to substitute for corporate governance.

Apart from corporate governance and self-governance, family firms can also choose mechanisms of family governance to handle agency problems (Blanco-Mazagatos et al., 2007; Kets de Vries, 1993). The primary mechanisms of family governance are the family assembly, i.e., a periodic, typically annual gathering of the extended family (Gersick and Feliu, 2014), and the family council, i.e., typically a group of family members representing different parts of the larger owner-family who meet regularly to deliberate issues related to the family's firm involvement (Gersick et al., 1997; Melin and Nordquist, 2007). The latter differs from the former in terms of its size and position as an institutional body of the family firm (Gallo and Kenyon-Rouvinez, 2005; Siebels and zu Knyphausen-Aufseß, 2012). The family council is typically "located above the board [of directors] in the governance chain and parallel to the shareholders annual meeting" (Melin and Nordquist, 2007, p. 325). Family governance plays a crucial role in managing inter-family conflicts by providing a stable framework for coordinating the interests of the different households that are involved in the firm. Family assemblies and councils also provide a forum in which different values, opinions, and attitudes about the firm are consolidated and presented to the firm management. Coordination among siblings may help them reach consensus on various issues, maintain a consistent attitude towards management, and strengthen the emotional bonds within the family. Siebels and zu Knyphausen-Aufseß (2012, p. 293) describe the mechanisms of family governance as a "structured nexus between the family and the business dimension, aiming to align diverging interests and to counteract decreasing emotional attachment of shareholders to the firm."

As noted above, family opportunism starts to emerge only in the second generation and increases as additional generations become involved. The key challenge for family firms in these stages involves balancing the need for family accord with the responsibilities of operating a business. To that end, family assemblies and councils may also advise, monitor, and support management. Blumentritt et al. (2007) argue that family firms benefit from family councils that support managers in making difficult decisions, such as those concerning the implementation of new strategies or the dismissal of family members. Family assemblies and councils can also serve as a forum for resolving policy issues such as the rights and responsibilities of family shareholders and relations between family managers and non-family managers (Gersick et al., 1997). Acting in this capacity, family assemblies and councils can substitute for many board functions. On these grounds, we expect family firms that have adopted family assemblies or councils that actively govern the business to downsize the functions that a board of directors executes. As family opportunism increases with the number of generations, we expect that the ability of family governance mechanisms to substitute for boards of directors increases in later stages. In contrast, in earlier stages, family governance mechanisms might even be counter-productive because the problem of parental altruism can be exacerbated if members of the family assembly or council, who are typically family members themselves, become involved in important decisions. Considering again that the adoption of family assemblies or councils is less costly in financial terms and in terms of the potential loss of control than establishing a board of directors (Blanco-Mazagatos et al., 2007; Jonovic, 1989), we expect family firms to choose family governance rather than corporate governance when the former is able to substitute for the latter (Misangyi and Acharya, 2014). Against this backdrop, we formulate the following hypothesis:

Hypothesis 2. The later the development stage a family firm is in, the more family governance tends to substitute for corporate governance.

Method

Sample of family firms

To test our hypotheses, we surveyed private family firms based in Germany in 2003 and 2013. We focused on private family firms because publicly traded firms are typically in the later stages of a family firm's development. Moreover, publicly traded firms have more restrictions on the choice of governance mechanisms, such as a mandatory supervisory board, which is typical for the German two-tier governance system. In 2003, we selected 3,000 firms from the Hoppenstedt database, one of the largest databases of German firms, which contains basic information such as name, industry, and a short self-description. To select the firms that met our criteria, we screened the short self-descriptions to determine whether they contained the term "family firm" or the equivalent and searched for the typical characteristics of family firms, such as the presence of owner-managers and clusters of identical surnames among the shareholders. The email addresses of 285 family firms were not publicly available; thus, we emailed the survey to the remaining 2715 firms, requesting the CEO to answer our questions. From the replies that we received, we filtered out incomplete responses and responses from non-family firms. After this step, 355 complete responses from family firms remained, corresponding to a response rate of 13 percent—which is typical of these types of surveys (Bartholomew and Smith, 2006; Patel et al., 2013).

In 2013, we attempted to contact all the firms in our sample a second time. From the original sample of 355 firms, we excluded 57 firms that had declared bankruptcy, were sold, or merged since 2003. Finally, we contacted 298 firms to ask them to complete the same questionnaire as in 2003. After several emailed and/or postal reminders, we collected 156 valid answers, achieving a very good response rate of 52 percent.

Measurement of the main variables

Stages of a family firm's development. As described above, family firms can be understood as developing in stages that are broadly defined by the generation that owns the firm at a given time. Accordingly, the literature distinguishes between the stages of "controlling ownership," "sibling partnership," and "cousin consortium" (Davis and Harveston, 1998; Eddleston et al., 2013). Because this differentiation into three stages is fairly imprecise and does not account for any transitions between stages, we further refined the three-stage model by adding interim stages, similar to other previous studies (e.g., le Breton-Miller et al., 2011). To do so, we combined two measurement approaches to operationalize the stage that each family firm in our database was in at the time of our surveys. First, we measured which generations, from the first to the fourth or higher, operate within the firm. Second, we asked the respondents to indicate which generation, from the first to the fourth or higher, was most active. We combined both measurements, which are highly correlated (r=0.9154), into a single scale using the average score for each firm. We further validated this measurement by comparing it with an alternative measurement that is based on the equity that each generation holds and that determines the broader stages (Ward and Dolan, 1998). The correlation between the combined measurement and the equity measurement is 0.7733, which suggests a high degree of validity.

Corporate governance. As explained above, in measuring corporate governance, we focused on the board of directors as the central corporate governance mechanism. Given our interest in the substitution of governance functions by different governance mechanisms, we measured the employment of the board of directors in terms of the number of functions that it served in the respective family firm. For this purpose, we developed a new measurement because the established board measurements focus on “structural” aspects, such as the presence of independent directors, the independence of the committee, the frequency of board meetings, and board size (Bammens et al., 2010; Daily et al., 1999; Khanchel, 2007; Siebels and zu Knyphausen-Aufseß, 2012). These measurements do not allow direct inferences regarding the concrete functions that the board fulfils in the respective family business. In other words, existing measurements capture structural preconditions for serving particular functions but do not indicate whether such functions are actually served. For example, an independent board, measured in terms of the ratio of independent directors, says little about whether the board actually serves a monitoring function. Hence, given our aim to collect survey data, examining the actual functions served by these boards seemed more appropriate. Because boards can both monitor and support business practice (Hillman and Dalziel, 2003; Zhang et al., 2011), we asked whether the following functions are fulfilled by a board and coded the answers accordingly (0=no, 1=yes): (1) mediation between partners/shareholders and management, (2) mediation among partners/shareholders, (3) assessment and approval of the firm strategy, (4) settling of the succession issue and election of the management team, (5) monitoring of the management team, and (6) support for and assistance to the executive team. The items have a good scale reliability coefficient of 0.9199. To measure the board’s functions in governing each firm, we totalled all items to form a new variable ranging from 0, implying that no activity is performed by the board, to 6, implying that all activities are performed by the board.

Family governance. The classical mechanisms of family governance are family councils and family assemblies. Their remit is not necessarily restricted to building consensus among family members but extends to coordinating the family interests and governing the family business. Thus, their functions may be practically identical to those of boards of directors. In our study, we thus measured the same functions that we measured when studying boards. Again, this measurement seemed more appropriate than the existing measurements, which tend to focus on whether family assemblies or family councils exist at all (Mustakallio et al., 2002). More precisely, we measured whether the following functions are served either by a family council or by a family assembly (0=no, 1=yes): (1) mediation between partners or shareholders and management, (2) mediation among the partners or shareholders, (3) assessment and approval of the firm strategy, (4) settling of the succession issue and election of the management team, (5) monitoring of the management team, and (6) support for and assistance to the management team. The items show a high degree of reliability (scale reliability coefficient: 0.8003). To measure the installation of family governance mechanisms, we totalled all items to form a new variable ranging from 0 to 12.

Self-governance I/II. The family firm literature highlights two central mechanisms of self-governance: family mission statements and partnership agreements (Ward, 1987). However, the few studies that have actually measured self-governance typically measure only whether these self-governance mechanisms exist at all or, at most, ask their respondents to rate on a scale the extent to which the respective set of self-binding rules are "utilized" (Leon-Guerrero et al., 1998). Because these measures are too crude for our purposes, we developed our own measurements focusing on the concrete functions that the self-governance mechanisms served. Considering the two central self-governance mechanisms in family firms, we developed two separate measurements: first, we measured whether the firm had a family mission statement that addressed the following issues (0=no, 1=yes) that are typically associated with family mission statements (Harris et al., 1994; Neubauer et al., 1998; Ward, 1987): (1) the role of the family within the firm, (2) goals for the family relating to family assets, (3) settling of conflict handling within the family, (4) settling of the succession issue, and (5) settling of questions of inheritance. The items show good reliability (scale reliability coefficient: 0.8907). To measure the functions of a "mission statement" as a means of self-governance intended to control founders' behaviour, we totalled all items to form a new variable ranging from 0 to 5.

Second, we also measured whether the following issues, considered particularly relevant in the family firm context (Gersick et al., 1997; Ward, 1987), were settled in the partnership agreement (0=no, 1=yes): (1) the issue of succession, (2) the transfer of cash from reserves to shareholders, (3) the ways in which profits should be allocated (e.g., the dividend payout ratio), (4) the disposal of shareholdings and severance payments, (5) the participation of family members in the firm, and (6) the use of corporate property by the family. Note that although the existence of partnership agreements is mandated by German law, the functions that we measured are not. Thus, if the partnership agreement regulates the issue of succession, it is a voluntary choice of the owners. The items show an acceptable degree of reliability (scale reliability coefficient: 0.6691). To measure the installation of self-governance by means of partnership agreements intended to control founders' behaviour, we totalled all items to form a new variable ranging from 0 to 6.

Measurement of the control variables

Relevance of corporate governance issues. We controlled for whether corporate governance issues were relevant to the company members in each firm in our sample. We decided to control for this variable because we suspected that the perceived functionality of governance mechanisms may be influenced by whether they are high or low on the organizational agenda (Dutton et al., 2001). We assumed that practices featured on a firm's agenda are perceived as relevant to governance. On this basis, we asked the respondents to indicate whether the following topics were featured on their firm's agenda within recent years (0=no, 1=yes): (1) the rights and duties of the board, (2) strengthening of the interests of partners or shareholders, (3) strengthening of the interests of employees, (4) the social responsibility of the firm to external stakeholders, (5) improvements in transparency for external stakeholders, (6) settling of the issue of management succession in the long term, (7) arrangement or updating of agreements between the company and the partners, (8) installation or updating of incentive systems for the management team, (9) securing and extension of opportunities to finance the company, and (10) organization or reorganization of the ownership structure. The items show good reliability (scale reliability coefficient: 0.7358). To measure the relevance of corporate governance topics for a firm, we totalled all items to form a new variable ranging from 0 to 10.

Events that trigger discussions of corporate governance. We controlled for events that triggered a discussion of corporate governance issues within the firm (0=no, 1=yes): (1) the general public or the media, (2) banks, (3) business partners, (4) business associations, (5) employees, (6) supervisory bodies, (7) consultants, (8) Basel II/Rating (Basel II represents the efforts by the Basel Committee on Banking Supervision to revise the standards governing the capital adequacy of banks with a significant influence on the German capital market), (9) management, (10) the family, and (11) potential investors. The rationale behind including this variable was that the influence of triggers might affect managers' perception of governance mechanisms. This effect might be stronger, e.g., if multiple triggers start such a discussion. The items show acceptable reliability (scale reliability coefficient: 0.5848). To measure how many triggers initiated a discussion of corporate governance, we totalled all items to form a new variable ranging from 0 to 11.

Events that trigger corporate governance restructuring. For the same reason, we asked the respondents to identify whether the following issues triggered the restructuring of corporate governance in the firm within the last ten years (0=no, 1=yes): (1) the rights and duties of the supervisory body, (2) strengthening of the interests of partners or shareholders, (3) strengthening of the interests of employees, (4) the social responsibility of the firm to external stakeholders, (5) improvements in transparency for external stakeholders, (6) settling of the issue of management succession in the long term, (7) arrangement or updating of agreements between the company and the partners, (8) instalment or updating of incentive systems for the management team, (9) securing and extension of opportunities to finance the company, and (10) organization or reorganization of the ownership structure. The items show good reliability (scale reliability coefficient: 0.7109). To measure the amount of restructuring events connected to corporate governance topics, we totalled all items to form a new variable ranging from 0 to 10.

Respondent is a family member. The respondents were asked to indicate whether they are a family member (0=no, 1=yes) because their status might influence how they perceived the relevance of governance mechanisms in their firm.

Number of employees. We controlled for firm size by asking the respondents to state the number of employees (1=<10, 2=10–49, 3=50–99, 4=100–499, 5=500–1000, 6=>1000).

Number of partners/shareholders. We included the number of partners/shareholders as a control variable (1=1, 2=2, 3=3, 4=4, 5=5–9, 6=10–24, 7=25–49, 8=50–100, 9=>100).

Family equity ratio. We controlled for the equity ratio of the family, i.e., the percentage of shares that the family members held.

Equity ratio below 20 percent. We included a variable that indicates whether the equity ratio of the firm is below 20 percent (0=no, 1=yes). The rationale here is that a low equity ratio might boost discussion of governance mechanisms in firms.

Processing trade/industry sector. We also controlled for each firm’s area of business. Because more than half of the companies in our sample belong to the processing trade/industry sector, we included only this category and asked the respondents to indicate whether their firm belongs to this area (0=no, 1=yes).

Role of the family within the firm. We measured whether the family was involved in the management team (0=no, 1=yes), the board of directors (0=no, 1=yes), or the staff (0=no, 1=yes) or served as an active partner/shareholder (0=no, 1=yes). Our rationale was that a family member's involvement in firm operations would affect the functions of the board. Table 1 contains the descriptive statistics and bivariate correlations of the variables that we considered.

Table 1 about here

Results

Table 2 shows the results of the regression analysis. In Columns I to VII, the main variables are introduced stepwise. The models are based on clustered OLS regression; we have repeated observations from two periods for most firms (2003 and 2013), and the models correct for robust standard errors. Columns IX and X display the results of two robustness checks for a model covering all key variables. In Column IX, we compute a random-effect regression model; that is, we explicitly consider the panel design of our dataset and assume that differences in governance can be explained by differences between and within firms due to changes over the 10-year period between the two surveys. In Column X, we compute a fixed-effect regression model; that is, we assume that differences in governance can be explained only by changes within firms over the 10-year period. Although the fixed-effect model is regarded as the most suitable option for ensuring causality, our dataset includes only two periods, which weakens the validity of the fixed-effect approach. Furthermore, because each stage in the life cycle of family firms corresponds to one generation, our decision to allow a 10-year interval between the two surveys implies that our model does not fully account for all changes from one stage to the next.

Table 2 about here

Before presenting our findings regarding our two hypotheses, we first examine the role of the board of directors as the classical governance mechanism. This approach facilitates interpretation of our findings regarding the substitution between corporate governance and the other two types of governance below. Column I of Table 2 describes how the functions of the board of directors relate to the stage of development of the family firm and to the control variables. The results show that family firms in the later stages of their life cycle have boards of directors that serve a greater range of functions than firms in the earlier stages of their development. That is, in firms that have been passed down from one generation to the next several times, boards become more important. This effect is significant (coefficient=0.215*).

With respect to the control variables, the findings presented in Column I of Table 2 indicate that boards of directors as a mechanism of corporate governance are more important in larger family firms and in firms with a large number of shareholders. Our results also show that corporate governance gains in importance if family members sit on the board, which implies that the family has greater control over the company. Conversely, the board is less relevant in firms in which family members are part of the management team—that is, in firms in which the family is involved in the company's management. Furthermore, our results show that, compared to non-family respondents, family members tend to assess corporate governance as less important. Finally, corporate governance seems to be regarded as relatively unimportant in firms whose equity ratio is below the 20 percent level.

After presenting these more general findings, we now turn to our two hypotheses more specifically. In Table 2, we present the main effect of the two measurements of self-governance (Columns II and IV) and the interaction effect between self-governance and a firm's stage of development (Columns III and V) to explain the number of functions that a board fulfils. In accordance with Hypothesis 1, these results show that the earlier the stage of development a firm is in, the more corporate governance tends to be substituted with self-governance to restrain founders' behaviour. The interaction effects are significant (coefficient=0.125† and coefficient=0.187***, respectively) and improve the models considerably (likelihood ratio test=3.26† and likelihood ratio test=34.00***, respectively). However, only the second measurement of self-governance mechanisms, i.e., partnership agreements, produces strong effects; in the case of the first measurement, i.e., family mission statements, the effects are weaker.

Figure 1 illustrates the effects of the two self-governance mechanisms. It shows the decrease in the number of functions served by the board of directors in case of a high degree of family mission statements or partnership agreements in relation to the different stages of the family firm's life cycle. As is clearly evident, both family mission statements and partnership agreements substitute for the functions of the board of directors. This substitution effect is clearly visible in the first stage of the family firm's evolution, but it decreases or disappears in later stages. Comparing the two graphs, we also observe that the substitution effect is stronger in the case of family mission statements than in the case of partnership agreements. For example, in stage 1, a high measure of family mission statements reduces the functions served by the board of directors by more than 1, whereas a high measure of partnership agreements reduces the functions of the board of directors only by approximately 0.5 functions.

Figure 1 about here

We now turn to the second hypothesis. The main effect of family governance (Column VI, Table 2) and the interaction effect between family governance and the stage of development of a family firm (Column VII, Table 2) explain the functions that a board adopts.

In accordance with Hypothesis 1, the results show that the later the stage of development a firm is in, the more family governance mechanisms tend to substitute for the functions of the board of directors. The interaction effect is significant (coefficient=-0.187*), and the additional variable improves the model (likelihood ratio test=6.39*). Figure 2 illustrates the magnitude of this effect. According to our findings, family firms in later stages need the functions of a board much less if these firms have introduced several mechanisms of family governance, which were measured in our analysis by the functions that a family council or family assembly fulfils.

Figure 2 about here

In Columns IX and X of Table 2, we use alternative models to test all key variables simultaneously. The results show that both the interaction effect between family governance mechanisms and the stage of a firm's development, on the one hand, and the interaction effect between self-governance mechanisms measured on the basis of partnership agreements and the stage of a firm's development, on the other hand, also remain significant in the alternative models. The interaction effect between mechanisms of self-governance that are measured on the basis of the functions covered by a family mission statement and the stage of a firm's development is too weak and becomes insignificant in these models, although the direction of the effect is robust. Despite this weak effect, these alternative results confirm that our findings are robust.

Discussion and Conclusion

Most existing studies treat governance mechanisms in family firms and non-family firms identically, focusing solely on the characteristics of the instruments of corporate governance, such as the composition and size of the board of directors (Gomez-Mejia et al., 2011; Huse, 1998). However, the influence of the family on a business makes family firms a distinct area of research (Chrisman et al., 2005; Bartholomeusz et al., 2006; Gomez-Mejia et al, 2001; Songini and Gnan, 2015). Although several studies have already suggested that mechanisms of corporate governance can substitute for each other (Rediker and Seth, 1995; Agrawal and Knoeber, 1996; Dalton et al., 2003; Desender et al., 2016; Moyer et al., 1992; Misangyi and Acharya, 2014), none of them has examined how these mechanisms relate to self-governance and family governance mechanisms. This issue was the focus of the present study. In particular, we have shown—both theoretically and empirically—how different types of governance mechanisms substitute for one another in different stages of family firms.

Building on behavioural economics, we argue that the need for different types of governance mechanisms in family firms changes because of changes in the agency conflicts in family firms' evolution. Our empirical findings provide consistent evidence for our arguments. More specifically, we argue that at the earlier stages, the founders are confronted with problems of parental altruism that call for mechanisms to limit their behaviour. Our results show that the more that founders' behaviour is restricted by means of self-governance in the early stages of a firm's development, the less need there is for boards of directors. Although this effect is not robust where the mechanism of self-governance is a family mission statement, we find significant evidence that partnership agreements substitute for boards of directors. However, as the problem of parental altruism decreases over the course of a family firm's evolution, there is less opportunity for self-governance mechanisms to replace corporate governance. Accordingly, our empirical findings show a decreasing rate of substitution between these two types of governance mechanisms over time. In addition, we argue that family opportunism emerges in the later stages of a family firm's evolution. We argue that rather than countering this problem with mechanisms of corporate governance, family firms can adopt mechanisms of family governance. Accordingly, our empirical results confirm that the later the stage of development a family firm is in, the more family governance can substitute for corporate governance.

These findings have several important implications for research on family firm governance and on corporate governance more widely. First, our results highlight the need for a more differentiated understanding of the different kinds of agency problems that firms, and particularly family firms, possess. The classical agency problem resulting from the separation of ownership and control is just one of several agency problems that we might encounter in family firms. As Schulze et al. (2003, 2001), Lubatkin et al. (2005), and other authors have argued as well, family firms are often faced with parental altruism and family opportunism particular which are problems typical to these kinds of firms. This means that even in the absence of the classical agency problem, family firms require governance mechanisms to handle agency problems. Based on behavioural economics we can trace these agency problems across different phases of family firms.

Second, the findings indicate that to the extent that different governance mechanisms can be used interchangeably, it makes no sense for firms to establish more governance mechanisms than they actually need. An optimal level of governance mechanisms exists for each family firm, depending on the agency conflicts the firm faces. If the main conflict in a family firm changes because of changes in its stage of development, then installing a more powerful governance mechanism might be advisable. However, the blunt addition of mechanisms might result in either excessive control of the firm or the obsolescence of governance institutions. Neither prospect is attractive. Consequently, managers should carefully consider the extent to which their firm needs instruments of governance and understand that boards of directors, family councils, and other instruments of governance are not the natural corollary of firm growth. In contrast, such instruments must be carefully balanced—which is a delicate task because institutions, once established, tend to persist (Hannan and Freeman, 1984).

Third, our study stresses the importance of taking the different phases of the family firm into account when assessing the degree to which governance mechanisms can substitute for each other. We found that the degree of substitutability of governance mechanisms changes across time: Self-governance substitutes for corporate governance the more the earlier the firm's stage of development, whereas family governance substitutes for corporate governance the more the later the stage. This observation has also important implications for corporate governance research in general: It highlights the time dimension as an important factor when assessing the substitutability between different governance mechanisms. Research on the substitution between governance mechanisms so far has not paid sufficient attention to the fact that context factors or even agency problems themselves might change over time and hence that the degree to which different mechanisms can stand in for each other might vary as a result of this.

Our research has limitations that should be considered in the interpretation of our results and that may be addressed in subsequent studies. A first limitation concerns the fact that our dataset includes only firms from one cultural and regulatory context, i.e., Germany. The main advantage of this focus is the increased comparability of different firms. Certainly, we also could have widened the dataset while controlling for cultural and regulatory differences, but doing so would have required a much larger sample. Restricting our sample in this manner has the disadvantage that we cannot readily generalize our specific findings to other cultural and regulatory contexts. For example, the German context is associated with a two-tier governance system in which publicly listed companies are typically expected to establish a particular supervisory board that is independent from the executive team. Hence, although we excluded publicly listed firms from our sample, it is possible that because of such particularities, the substitution effects between the governance mechanisms may be either stronger or weaker in other contexts. However, we would argue that the logic of substitution across different stages is not specific to our German context; this question can be examined in future research.

A second limitation concerns the fact that our longitudinal dataset is restricted to two periods separated by an interval of 10 years. The advantage of this time lag is that it allowed us to examine changes in the ownership and corporate governance of the family firms that we sampled. The main disadvantage is the lack of observations in the interim. This problem generally limits the validity of empirical methods such as fixed-effect models, which are often used in the analysis of panel data. A third disadvantage is that the time lag of 10 years is too short to trace the substitution of governance mechanisms within each family firm over generations. If we had data on the entire history of each family firm, the results would be more robust. Because such data were neither available nor comparable between different periods, we compared the short-term development of governance in family firms at different stages in each firm's life cycle.

A third limitation of our study concerns the fact that we have only focussed on the extent to which the different governance mechanisms can substitute for each other. Apart from that, the different governance mechanisms might also complement each other, i.e. "mutually enhance the ability to achieve effective […] governance" (Aguilera et al., 2008: 476). Several studies in corporate governance have shown that different governance mechanisms might work better in combination than on their own. With regard to our findings, this means that even though it might be possible to replace corporate governance by self-governance and family governance, combining the different governance mechanisms might reduce agency problems more than what the mechanisms could achieve independently. Hence as highlighted also be Uhlaner et al. (2007: 237), there is a need for future research to explore potential complementarities between the governance mechanisms across different periods of time..

A final limitation concerns the fact that we focussed on the board of directors as exemplary mechanism of corporate governance. Accordingly, fFuture research should examine also how alternative instruments of corporate governance interrelate with instruments of self-governance and family governance. For instance, it would interesting to analyse whether mechanisms such as incentive systems instead of boards of directors (Beatty and Zajac, 1994) impact the functionality of self-governance and family governance mechanisms in family firms. Several factors suggest that incentive systems influence the functioning of boards of directors but have less impact on mechanisms of family governance and self-governance: incentive systems are more static and one-dimensional in the sense that they lack the procedural aspect of other types of mechanisms, such as boards of directors, and they cater differently to the divergent or conflicting interests of different family households. Incentive systems thus offer a “fixed” solution to problems such as motivation and income distribution but are not suitable for the arbitration of family disputes that arise from sibling rivalry or for intrapersonal conflicts caused by a founder’s altruism. For this reason, incentive systems may help bridge the divide between owner and manager interests, but they are less appropriate for solving agency conflicts that arise from parental altruism or family opportunism.

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Tables

Table 1
Descriptive statistics and bivariate correlations

ID	Variable	Mean	Std.Dev.	Min	Max	1	2	3	4	5	6	7	8	9
1	Corporate governance	1.97	2.35	0	6									
2	Stages of a family firm’s development	4.04	1.25	1	6	.18**								
3	Family governance	.30	1.05	0	8	-.06	.00							
4	Self-governance I: mission statement	.66	1.48	0	6	-.09	.06	.07						
5	Self-governance II: partnership agreement	3.71	1.62	0	6	-.08	.22***	.07	.12*					
6	Relevance of CG issues	6.18	2.44	0	10	.19***	-.01	.10†	-.09	-.13*				
7	Events that trigger discussion on CG	2.59	2.10	0	8	.11†	.08	.08	-.04	-.03	.28***			
8	Events that trigger CG restructuring	3.65	2.48	0	10	.07	-.02	.04	.00	-.03	.32***	.39***		
9	Number of employees	4.40	1.06	0	6	.27***	.07	.00	-.03	.00	.08	.06	-.04	
10	Number of partners/shareholders	3.47	2.06	1	9	.25***	.12*	.07	-.06	-.01	.09	-.03	.00	.06
11	Respondent is a family member	.49	.50	0	1	-.18**	-.05	.06	.10†	.08	.00	.08	.12*	-.16**
12	Equity ratio below 20%	.14	.34	0	1	-.18**	-.02	-.05	-.08	-.02	.14*	.11†	.08	-.19***
13	Processing trade/industry sector	.51	.50	0	1	.04	.17**	-.15*	.06	.09	-.01	.03	-.01	.15*
14	Family member is part of the management team	.88	.32	0	1	-.31***	-.07	.08	.08	.05	-.01	-.06	-.05	-.06
15	Family member is part of the advisory board	.33	.47	0	1	.62***	.09	.08	-.09	-.16**	.19***	.18**	.06	.25***
16	Family member is part of staff	.27	.44	0	1	-.08	-.05	.09	-.02	-.10†	.09	.09	.19***	-.07
17	Family member is an active partner/shareholder	.91	.29	0	1	-.08	-.11†	.04	-.02	.02	-.04	.04	.03	-.04
18	Family equity ratio	94.74	16.94	0	100	-.15*	.04	-.03	.03	.10†	-.03	.00	-.10	-.06

ID	Variable	Mean	Std.Dev.	Min	Max	10	11	12	13	14	15	16	17
11	Respondent is a family member	.49	.50	0	1	.00							

12	Equity ratio below 20%	.14	.34	0	1	.10†	.00						
13	Processing trade/industry sector	.51	.50	0	1	.04	-.10†	-.15*					
14	Family member is part of the management team	.88	.32	0	1	-.02	.27***	.08	-.10				
15	Family member is part of the advisory board	.33	.47	0	1	.23***	-.08	-.19***	.14*	-.25***			
16	Family member is part of staff	.27	.44	0	1	.06	.21***	-.07	-.06	.17**	-.02		
17	Family member is an active partner/shareholder	.91	.29	0	1	-.03	.08	-.02	-.11	.16**	-.07	.02	
18	Family equity ratio	94.74	16.94	0	100	-.20***	.07	.08	.10†	.10†	-.04	.08	.20***

Legend: N=278 observations of 156 family firms; CG=corporate governance; † = $p \leq 0.1$, * = $p \leq 0.05$, ** = $p \leq 0.01$, *** = $p \leq 0.001$.

Table 2
Regression results

Column	I				II				III				IV				V			
	Clustered OLS				Clustered OLS				Clustered OLS				Clustered OLS				Clustered OLS			
Y: Corporate Governance	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**
Self-governance I: mission statement					-.037	.071	-.53		-.574	.282	-2.03	*								
Self-governance I x Stages									.125	.066	1.89	†								
Self-governance II: partnership agreement													.010	.078	.13		-.790	.201	-3.93	***
Self-governance II x Stages																	.187	.042	4.50	***
Family governance																				
Family governance x Stages																				
Stages of a family firm’s development	.215	.098	2.20	*	.218	.098	2.22	*	.155	.108	1.43		.228	.096	2.37	*	-.505	.186	-2.71	**
Relevance of CG issues	.068	.046	1.48		.067	.046	1.45		.079	.047	1.67	†	.081	.047	1.72	†	.072	.043	1.69	†
Events that trigger discussion on CG	.011	.066	.17		.011	.066	.16		.013	.065	.20		-.012	.063	-.18		-.019	.057	-.34	
Events that trigger CG restructuring	.027	.058	.46		.028	.058	.48		.036	.057	.63		.031	.059	.52		.017	.054	.32	
Number of employees	.242	.106	2.28	*	.240	.106	2.26	*	.235	.106	2.22	*	.199	.103	1.93	†	.120	.104	1.16	
Number of partners/shareholders	.134	.065	2.06	*	.133	.065	2.04	*	.128	.065	1.97	†	.123	.065	1.88	†	.089	.061	1.46	
Respondent is a family member	-.458	.240	-1.91	†	-.447	.240	-1.86	†	-.476	.239	-1.99	*	-.414	.243	-1.70	†	-.317	.223	-1.42	
Equity ratio below 20%	-.714	.283	-2.53	*	-.728	.285	-2.56	*	-.794	.296	-2.68	**	-.660	.288	-2.30	*	-.620	.256	-2.42	*
Processing trade/industry sector	-.490	.260	-1.89	†	-.484	.262	-1.84	†	-.477	.263	-1.82	†	-.482	.263	-1.83	†	-.385	.245	-1.57	
Family member is part of the management team	-1.026	.393	-2.61	*	-1.014	.394	-2.58	*	-.982	.401	-2.45	*	-1.003	.415	-2.42	*	-.796	.378	-2.11	*
Family member is part of the advisory board	2.317	.283	8.18	***	2.310	.286	8.08	***	2.312	.284	8.15	***	2.450	.297	8.25	***	2.254	.299	7.54	***
Family member is part of staff	-.260	.260	-1.00		-.265	.261	-1.02		-.255	.257	-.99		-.240	.274	-.87		-.224	.256	-.88	
Family member is an active partner/shareholder	.073	.355	.21		.066	.355	.19		.069	.345	.20		.068	.362	.19		-.093	.330	-.28	

Family equity ratio	-.010	.007	-1.42		-.010	.007	-1.41		-.010	.007	-1.35		-.009	.007	-1.26		-.009	.007	-1.41	
_cons	.721	1.092	.66		.738	1.095	.67		.862	1.075	.80		.617	1.142	.54		3.787	1.305	2.90	**
F-Value			17.24	***			27.18	***			26.52	***			26.61	***			29.55	***
Number of obs.			278				278				278				278				278	
Number of clusters (id)			156				156				156				156				156	
R-squared			.48				.48				.49				.48				.54	
Likelihood ratio test			6.23	**			.27				3.26	†			.02				34.00	***

Legend: CG=corporate governance
† = p ≤ 0.1, * = p ≤ 0.05, ** = p ≤ 0.01, *** = p ≤ 0.001.

Table 2
Regression results (continued)

Column	VI				VII				VIII				IX				X			
	Clustered OLS				Clustered OLS				Clustered OLS				Random-effects				Fixed-effects			
Y: Corporate Governance	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**Rob. StEr.**	**t**	**P>|t|**	**Coef.**	**StEr.**	**t**	**P>|t|**	**Coef.**	**StEr.**	**t**	**P>|t|**
Self-governance I: mission statement									-.471	.309	-1.52		-.488	.331	-1.47		-.345	.256	-1.35	
Self-governance I x Stages									.097	.070	1.38		.103	.075	1.38		.222	.248	.90	
Self-governance II; partnership agreement									-.771	.194	-3.97	***	-.672	.140	-4.81	***	-.345	.216	-1.59	
Self-governance II x Stages									.188	.041	4.63	***	.166	.030	5.58	***	.097	.046	2.10	*
Family governance	-.183	.131	-1.40		.561	.383	1.46		.446	.241	1.86	†	.473	.275	1.72	†	.702	.372	1.89	†
Family governance x Stages					-.187	.086	-2.17	*	-.170	.066	-2.59	*	-.183	.065	-2.83	**	-.252	.087	-2.88	**
Stages of a family firm's development	.214	.098	2.19	*	.278	.101	2.75	**	-.501	.185	-2.71	**	-.434	.149	-2.92	**	-.128	.281	-.45	
Relevance of CG issues	.074	.047	1.59		.075	.046	1.63		.089	.043	2.07	*	.070	.042	1.67	†	.006	.059	.09	
Events that trigger discussion on CG	.021	.065	.32		.014	.065	.22		-.014	.055	-.25		-.016	.050	-.33		-.023	.071	-.33	
Events that trigger CG restructuring	.024	.057	.42		.035	.058	.60		.033	.053	.62		.039	.043	.90		.010	.066	.15	
Number of employees	.242	.107	2.26	*	.250	.108	2.32	*	.120	.106	1.13		.137	.106	1.29		.140	.225	.62	
Number of partners/shareholders	.142	.065	2.18	*	.152	.066	2.30	*	.101	.062	1.61		.089	.053	1.69	†	.009	.094	.09	
Respondent is a family member	-.457	.237	-1.93	†	-.424	.235	-1.80	†	-.299	.217	-1.38		-.373	.204	-1.82	†	-.465	.309	-1.50	
Equity ratio below 20%	-.771	.290	-2.66	**	-.878	.295	-2.97	**	-.861	.272	-3.16	**	-1.002	.303	-3.31	**	-1.346	.429	-3.14	**
Processing trade/industry sector	-.546	.265	-2.06	*	-.605	.259	-2.34	*	-.502	.243	-2.07	*	-.577	.233	-2.48	*	-.832	.651	-1.28	
Family member is part of the management team	-.973	.390	-2.49	*	-.970	.392	-2.48	*	-.679	.377	-1.80	†	-.711	.333	-2.13	*	-.886	.590	-1.50	
Family member is part of the advisory board	2.332	.284	8.20	***	2.343	.278	8.42	***	2.298	.289	7.95	***	2.194	.232	9.47	***	1.851	.340	5.44	***
Family member is part of staff	-.250	.261	-.96		-.247	.261	-.95		-.198	.255	-.78		-.258	.225	-1.15		-.207	.330	-.63	
Family member is an active partner/shareholder	.088	.351	.25		.078	.357	.22		-.097	.323	-.30		.066	.320	.21		.347	.403	.86	
Family equity ratio	-.010	.007	-1.44		-.011	.007	-1.57		-.010	.006	-1.53		-.010	.006	-1.73	†	-.010	.008	-1.29	

_cons	.675	1.079	.63		.424	1.114	.38		3.589	1.273	2.82	**	3.449	1.026	3.36	**	2.611	1.929	1.35	
F-Value			27.24	***			26.29	***			27.28	***							3.85	***
Wald chi2															276.93	***				
Number of obs.			278				278				278				278				278	
Number of clusters (id)			156				156				156				156				156	
R-squared			.49				.50				.57				.60				.43	
Likelihood ratio test			3.49	†			6.39	*			57.16	***								

Legend: CG=corporate governance
† = p ≤ 0.1, * = p ≤ 0.05, ** = p ≤ 0.01, *** = p ≤ 0.001.

Figure 1. Self-governance substitutes corporate governance in early stages of the family firm

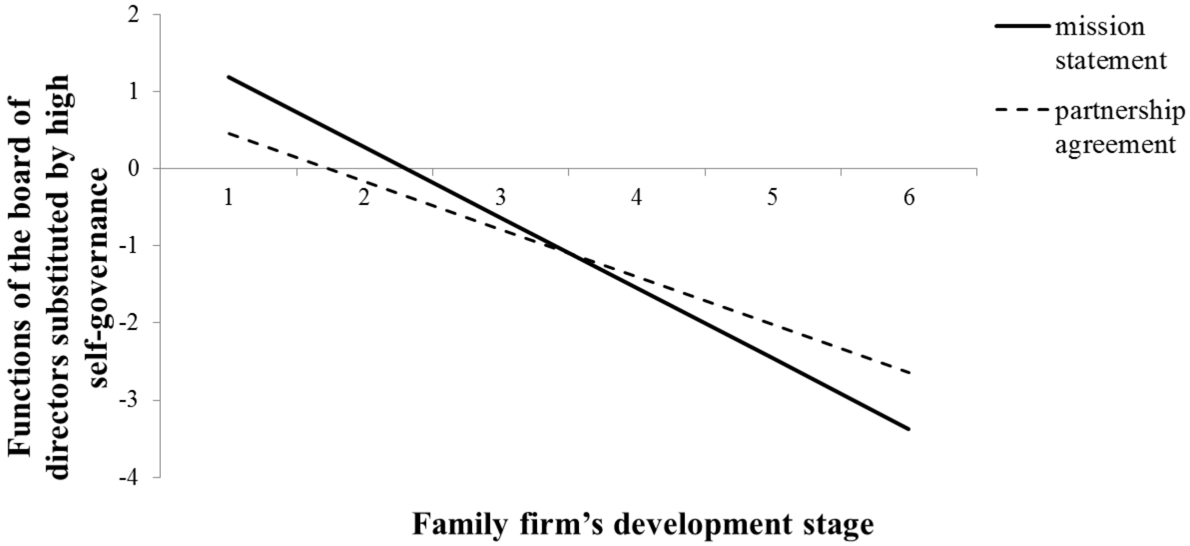

Figure 2. Family governance substitutes corporate governance in later stages of the family firm